

ABSTRACT

A device and method for emitting output light utilizes a mixture of Group IIB element Selenide-based phosphor material and Group IIA element Gallium Sulfide-based phosphor material in which the Group IIA element includes Calcium, Strontium and/or Barium to convert some of the original light emitted from a light source of the device to longer wavelength light to change the optical spectrum the output light. Thus, the device and method can be used to produce white color light. The mixture of Group IIB element Selenide-based and Group IIA element Gallium Sulfide-based phosphor materials is included in a wavelength-shifting region optically coupled to the light source, which may be a blue light emitting diode (LED) die.